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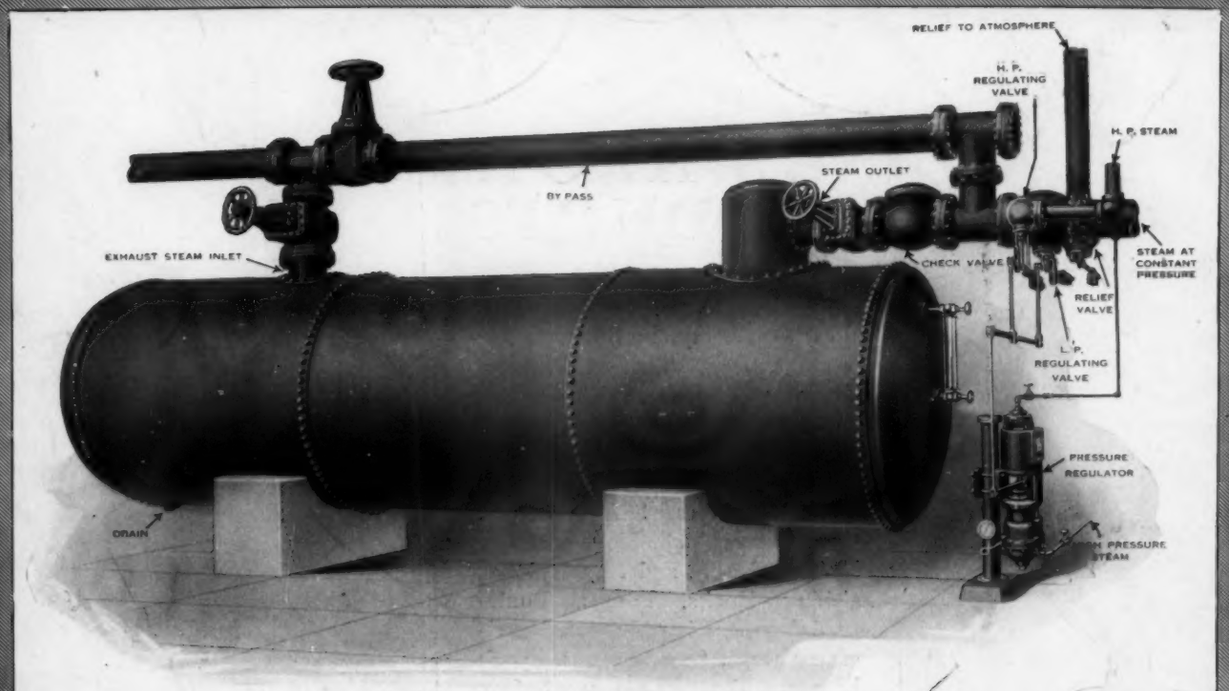

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Standard Mantle Lamps

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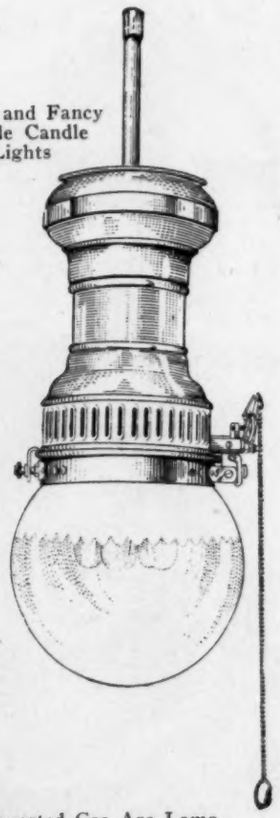

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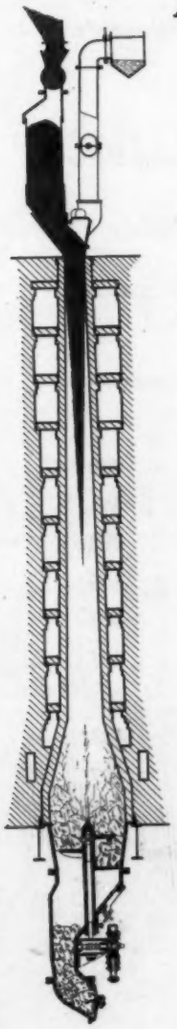

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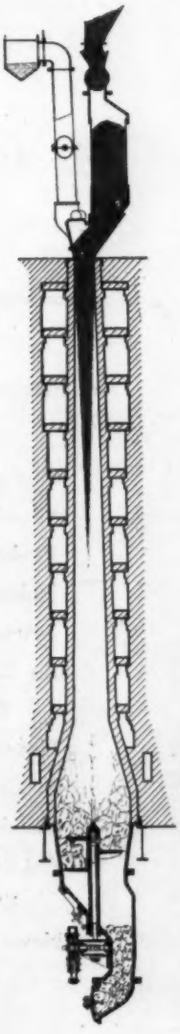

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AMERICAN
GAS JOURNAL

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Out-of-Door Advertising

Every gas company should be sold on this important phase of publicity

John. F. Weedon

"WHY do you use out-of-door advertising, and what good do you get out of it?" asks the Earnest Inquirer.

He asks the question with a look and manner that indicates he expects to be given a satisfactory answer in less than 50 words, periods and commas included.

As a matter of fact, he has opened up a subject that could hardly be fully and satisfactorily explained and discussed in all its angles in 50 pages. Nevertheless, it is a subject on which every gas company should be thoroughly sold. Out-of-door advertising should be part of the advertising program of every company, for its own good and the good of the industry. In making this statement the writer does not wish to appear dogmatic. He is merely stating his own convictions, based on some years' experience with out-of-door advertising.

Out-of-door advertising should be adopted as an acknowledgment that the company considers itself a servant of the public. Too many people have absorbed the idea that a gas company is a monopolistic autocracy; that in order to do business with it one must approach it humbly and circumspectly.

Out-of-Door Sign an Invitation

An out-of-door sign is an invitation and an indication to the public that the company solicits its business. It is comparable to the corner grocer bestowing a bow and smile on a new resident in his neighborhood. To be approached by a person who seeks to do business with you places you in the position of a possible patron. Everybody likes to feel he is a patron. Here is someone seeking your consideration. If the approach is made without offense, pleasantly and politely, even the most adamant will soften and consent to consider the matter.

The effect is the same whether the message applies to the party who reads it or not. The colored man who was asked if he could change a ten-dollar bill replied: "No, Sah, Ah ain't got no ten dollars, but Ah's much obliged for the compliment." You may not need the goods or service the company offers you, but you cannot escape the consciousness that the company has offered them to you.

Active Advertising Indicative of a Going Business

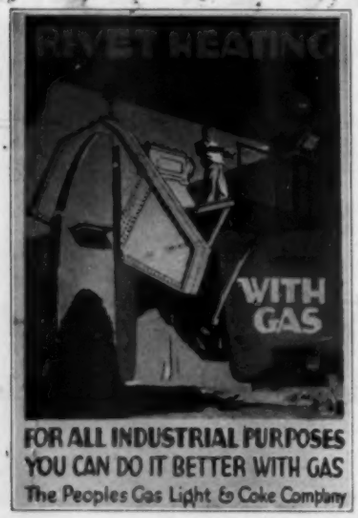
Americans admire an institution that by proper and legitimate means is seeking to extend its business. Active advertising is indicative of a live organization and good service behind it. This may not always be true, but it is pretty generally the case. The business supports the advertising, and, in turn, the advertising brings more business.

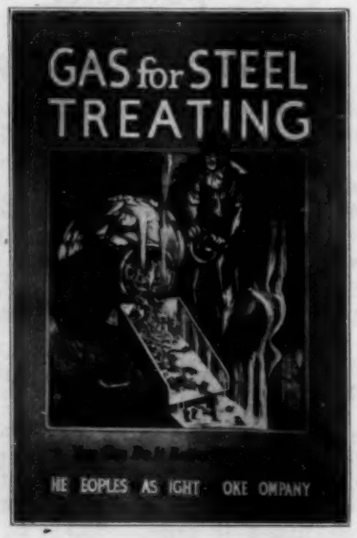
Generally speaking, it is a mistake to try and trace direct results from out-of-door advertising. They show in a gradual, steady growth in the volume of business and, more particularly, in a warmer and friendlier feeling on the part of the public towards your organization.

Out-of-door advertising is seen and read out of doors. People who see it are walking or riding, they are filling their lungs with oxygen and the breezes are blowing the cobwebs from their brains. They are not thinking of business. The advertising signs they pass register on their sub-conscious mind—but they do register. You can test this out by checking up the subjects of conversation introduced by your traveling companions. Quite frequently you will find matters mentioned that found their place in the mind through the medium of some billboard or poster that was recently passed but not consciously observed.

Details of Out-of-Door Advertising Conditions

The study of out-of-door advertising is full of interesting facts and details. In the matter of billboards, first, there is the selection of suitable locations. Locations are valued by what the billboard man calls their circulations, i. e., the number of people who pass within sight of the board within a given time. But this is not the only thing to consider, by any means. Its value may be modified greatly by the direction in which it faces. A board that catches the eye of people coming into town is, generally, more to be desired than one which only shows to those on their way home. Interferences of various kinds are also something that must be investigated. A tree, hardly noticeable in winter, may develop foliage in the spring that will render your board practically valueless.





Then there is the question of surrounding boards which may detract from your display. A dominating board, in a row of boards, particularly if they are illuminated, is to be preferred to an isolated one, but constant care must be exercised to keep your board keyed with a higher note than those surrounding it. This of itself offers plenty of opportunity for study. A long board with a big canary yellow background and some purple lettering placed alongside a more modest design will kill it deader than the proverbial doornail. So it is necessary to study your neighbors' styles and watch for changes.

Styles of Out-of-Door Advertising

The styles in out-of-door paint change almost as frequently as do women's fashions. And it does not do to be out of the fashion or too late in adopting it. The value of something "absolutely different" is questionable. It probably will attract attention b yits "difference," but there is danger of its coming ino the class of too cleverly written "ads," which leave the reader with thoughts of the writer rather than with thoughts of what he has written about, or the many mystifying mechanical devices that operate to the wonderment of the beholder, thereby leaving him speculating on "how it works," instead of what it says. Such advertising, like vaulting ambition, overleaps its mark, and comes a cropper on the other side.

The main message of an out-of-door billboard should reveal itself to the passer-by in a space of time, some say, not to exceed three seconds. This does not mean that a complete reading of the board can be made in three seconds. Well-known slogans and company names are recognized at a glance and need not be considered in the three-second test, but care should be taken that such sentences do not clutter up the board or confuse the reading of the real message.

Color Combinations

Color combinations are best worked out by people who have made a study of them for bill-board purposes. Do not judge a sketch solely for its artistic merits. It may be very pleasing, viewed close up, and lose all its value when enlarged and seen from a distance. Color combinations that are inharmonious, however striking they may be, should be avoided on account of their liability to offend people who are sensitive to color. There are only a few fundamentals to work with, but combinations and contrasts are inexhaustible.

Letters should always be first laid on white, and color painted over the white. This gives a luminosity to the color which will be lost if painted over another color.

The selection of suitable posters presents as many problems as do bulletin boards. Black and dark color backgrounds, however pleasing they may seem viewed in an office, do not give satisfaction when placed on boards. The background is liable to get streaked with paste that freezes or dries and makes dirty gray streaks. Then, in winter time especially, the posters are seen by artificial light a good part of the

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Wood Alcohol from Water Gas

Making methanol from carbon monoxide and hydrogen

Ismar Ginsberg

CONSIDERABLE attention has been paid in the past month or so to the newly perfected process of making wood alcohol, or methanol, as it is now commonly called, from a mixture of hydrogen and carbon monoxide, essentially water gas. This is a development that has taken several years to reach a point of commercial applicability, but it now appears that wood alcohol can be and is being manufactured from water gas on a large scale in Germany and is competing successfully with the wood alcohol that is distilled from hard wood in this country. In fact, the competition seems to be so severe and so much of the new methanol has been imported into this country, that it would appear as if the domestic hard wood distillation industry is doomed unless something very radical is done right away. To the gas engineer the process is of interest and of importance, for the starting point in the manufacturing process is a mixed gas, the constituents of which, carbon monoxide and hydrogen, are made to combine and form methyl alcohol by synthesis. It has, therefore, been thought advisable to describe the development of this process and tell something about its details.

Both France and Germany look upon this latest development in the nature of a national defense movement, so that each country may be independent of foreign sources of supply of this material. Both countries possess only a small amount of hard wood from which the alcohol can be distilled and for quite a long time have been exerting every effort to devise a process which would employ raw materials that are found in large quantities in the country or are derived from such materials. The original raw material in this case is coal, which is plentiful in both countries.

Theoretical Basis of the Process

The basis of the process is simple. Carbon monoxide has long been known to be a gas which is not saturated. In other words, when coal or any carbonaceous fuel is burned and carbon monoxide is found in the flue gases or gases of combustion, it is generally held that the combustion was incomplete, that all the thermal value of the fuel has not been derived from it. For carbon monoxide is only an intermediate point in the combustion of fuel, the final product being carbon dioxide or carbon united with two molecules of oxygen in the molecule. Thus it is said that carbon monoxide is unsaturated, for the carbon atom in the molecule can be made to combine with another oxygen atom to give carbon dioxide, and for that matter under certain conditions it can also be made to combine with an atom of chlorine to give carbonyl chloride or phosgene gas, a gas which was used largely in the recent war for military purposes.

Formaldehyde is a very common substance. It may be looked upon merely as a combination of carbon monoxide with two atoms of hydrogen, and when another two atoms of hydrogen are added to the molecule of formaldehyde and the molecule is rearranged somewhat methyl alcohol is obtained.

Process Principle Simple

On the face of it the process looked very simple, but when an attempt was made to hydrogenate carbon monoxide gas in the usual manner with the aid of nickel, which was employed as a catalyst, it was found that not a trace of formaldehyde or of methanol was formed. This was the net outcome of the first experiments that were carried out on this matter at a time when the investigators did not possess the facilities that are available at the present day, particularly those enabling them to work at high pressures.

The world is familiar now with the Haber process of making ammonia by synthesis from nitrogen and hydrogen. It knows now how the Germans managed to get along without Chili saltpeter and still carry on the manufacture of explosives. In 1913 the German dyestuff manufacturer, the Badische Anilin und Soda Fabrik, took out a patent on a process of making hydrogen and carbon monoxide combine under pressure and at elevated temperatures in the presence of catalysts. The process was of similar character as the ammonia synthesis, but it was abandoned because the results were not forthcoming on a practical scale.

Work of Patart

The Frenchman, Patart, in 1921, obtained a patent on a process of making definite proportions of hydrogen and carbon monoxide combine under the influence of catalytic masses, comprising metals, their oxides or their salts. The process was carried out at temperatures between 300 and 600 degrees C. and under high pressures. It was indicated that this process could be exploited on a commercial scale for the manufacture of wood alcohol. The next step was the issuance of a number of patents to the Badische Anilin und Soda Fabrik towards the end of 1923. The basic U. S. patent in this instance is now held by the Chemical Foundation, Inc.

When methyl alcohol decomposes the resulting products are carbon monoxide and hydrogen, or, in other words, water gas. The idea was to cause the reformation of the methyl alcohol by making the two gases combine. Of course, while the main reaction of decomposition results in the formation of

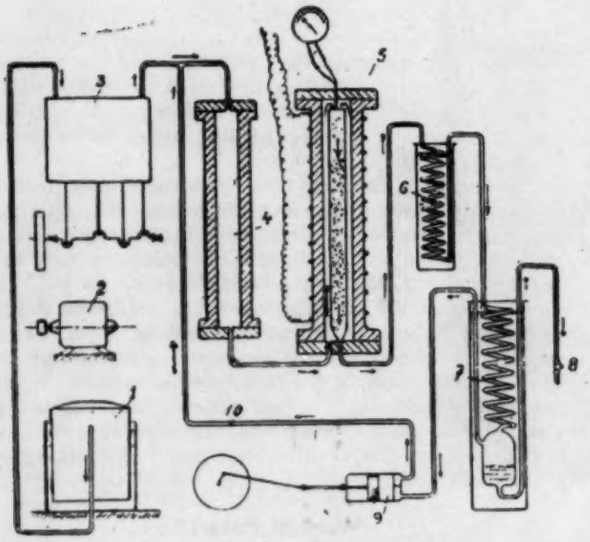
carbon monoxide, it is also possible for carbon dioxide to be formed in a secondary reaction. By controlling the conditions of pressure and of temperature it is possible to cause the secondary reaction to take place in the place of the primary reaction.

It must be explained that in the secondary reaction the methyl alcohol is broken down to yield methane and water or methane and carbon dioxide. This is in accordance with the following equations:

$$CH_3OH = CH_4 + H_2O.$$
$$CH_3OH + CO = CH_4 + CO_2.$$

Description of Apparatus Employed

A diagrammatic sketch of the apparatus that is employed in the manufacture of synthetic methyl alcohol from a water gas is given in the following: The gaseous mixture, of the proper composition, which is two volumes of hydrogen for one volume of carbon monoxide, is contained in the gasometer 1. The gaseous mixture is drawn out of the gasometer by means of a compressor s. This compressor has four cylinders and is actuated by means of an electric motor, which is shown at 2. The resulting pressure of the compressed gases will then be as high as 500 atmospheres. The gaseous mixture first passes through a purifier, which is made in the nature of a filter, where it is cleansed of any entrained particles of oil or other impurities. Then the gases enter the catalytic autocalve, 5, where they are made to pass over a catalytic agent which is maintained at a proper temperature by means of an electric heating device. The gases then pass through two cooling coils, 6 and 7, where they are condensed by means of cooling water. The second of these cooling coils acts as a condenser, while the first merely cools down the gases, and the second condenser is therefore provided with a collecting chamber for the condensed liquids, which are then removed by means of the cock 8. The gases that are not condensed in these condensers are drawn out by means of the circulating pump, 9, which returns them through the pipe, 10, into the main circuit, passing into the catalyzing apparatus, with the result that the speed of the circulation is regulated at the most favorable point.



Sketch of Apparatus Used to Manufacture Synthetic Methyl Alcohol from Water Gas

The Catalysts

The choice of the catalyzing substance is based on the well-known principle of chemical thermodyanics, by virtue of which the catalytic agents, if they are not subjected to any change during the course of the reaction, are themselves liable to vary the state of equilibrium of a gaseous mixture and only accelerate the transformations that are effected in that state. Thus their action is of a two-fold nature, either synthesis or decomposition, according to the conditions of equilibrium that exist in the apparatus.

The choice of the catalysts is therefore a problem of prime importance. Generally a zinc dust or powder of commercial purity, consisting of a mixture of zinc and zinc oxide with traces of cadmium and oxide of cadmium, has been found very suitable for this purpose, not when used alone, but in admixture with a commercial copper powder. This powder contains copper and other metals and is generally used to produce an imitation gilding. The catalyst which is made in this manner gives very good results. It is stated also that even more favorable results can be obtained with the aid of salts which are prepared from the acid oxides of various catalytic metals.

A product of this kind has been known to give the best results at a temperature of 220 to 300 degrees C. under pressure of 150 to 250 atmospheres. The hourly yield reaches as high as 100 cubic centimeters of methyl alcohol per volume of catalyst of 200 cubic centimeters, which is in the neighborhood of 0.5 kilogram per 1,000 cubic centimeters space of catalyst. This productive capacity is of the same magnitude as that which attends the manufacture of ammonia by synthesis.

The alcohol that is obtained in this manner is relatively very pure. It contains no trace of aldehyde or of acetone.

Probable Rate Developments*

A discussion of the various rates in use and the future trend

R. E. Taylor

New Business Manager, Southwestern Gas & Electric Co., Shreveport, La.

PUBLIC utility corporations, such as the gas companies for which you and I work, occupy, we all feel, a very important place in the life of our communities. They have a three-fold responsibility, a failure in any one of which functions presages a failure in all. They have a responsibility to their customer, to give him the best service possible at a fair price. They have a responsibility to their stockholder, to protect his investment and pay him a fair return for its use. They have a responsibility to their employee, an obligation to give a day's pay for a day's work under the most happy conditions permissible.

The fulfillment of these functions requires that the rates for which the utility sells its products shall be correct. If the rates, as a whole, do not have cognizance of the value of the service, the customers, as a whole, are not being fairly treated. If the rates, as a whole, do not relate to the cost of service, the stockholder is being imposed upon. If either the customer or the stockholder is too long neglected the employee suffers. So, if we are to make a success of our business, we must make the nearest approach we can to rates that are just to all concerned.

The Determination of a Rate Schedule

In arriving at a schedule of rates, we must consider these factors:

1. Cost of Service.
2. Value of Service.
3. Practicability.

Our rates must yield a revenue not less than the cost of service, including operating and maintenance expenses, depreciation and replacement reserves, taxes and a fair return on the investment. They should go deeper than that, each class of consumer should pay a rate to cover the cost of the service to him.

Value of service may be considered an abstract quantity as applied to the residence or other small consumer, since much of the value of such service is not measured in dollars and cents. But for the larger, or industrial, consumer, value of service is a determinable factor, based on the comparative cost of using other fuels.

Practicability might be termed public, or political expediency. It is the sort of consideration that makes a commission, admitting unreservedly the justness of a service or customer charge, eliminate it from a rate schedule because "it is unpopular." The term practicability, covering a multitude of factors, carries great weight in all rate decisions.

Present-Day Rate Structures

A study of the rate lists of the American Gas Association and the Natural Gas Association of America shows that most of the rates in use may be classified in the following groups:

1. Block or step rate.
2. Block or step rate with minimum charge.
3. Block or step rate with service charge.
4. Block or step rate, with small first step at a comparative high rate.
5. Two-part rate.
6. Three-part rate.

They are listed in the order in which they approach the cost of service.

Three or Four-Part Rate

You will all agree that a proper three or four-part rate, with its customer, demand, and commodity charges, is the nearest approach to the actual cost of service of all the rates proposed. By four-part rate I mean the rate which separates demand charges as between manufacturing and distribution demand. The two-part rate, a modification of the three-part, is a less close approach to cost of service. Most of you probably need no argument in favor of these types of rates, and would gladly adopt them if you could.

Block Rates

The various types of block or step rates are most commonly used. That with a minimum bill is an improvement over the plain rate. The injustice of the minimum bill lies mostly in the fact that the consumer who burns an amount of gas so that his charge about equals the minimum bill pays practically no customer charge, which this minimum bill is supposed to collect, the money he pays going largely to pay the commodity charge on the gas he burned. For example, in Shreveport, the first step on our gas rate is 38c net, and the minimum bill is 50c a month. The man who burns no gas at all pays 50c, which is 54 per cent of the amount we call our customer cost, based on the fact that each customer on our lines, irrespective of consumption, costs us $11.00 a year, or 92c a month. The man who burns 1,000 cubic feet of gas in a month also pays 50c. The commodity charge on this amount of gas, according to an analysis of our accounts, is 22c. So this customer is only paying 28c, or 30 per cent of his customer cost.

*Delivered at the 1925 convention of the Southwestern Public Service Association.

Step Rate

The step rate with a service charge is more sound, but from the practical viewpoint seems least popular. The rate, becoming more popular, of charging for the first few hundred feet at a high rate per thousand, secures the results of the minimum bill and service charge rates without some of their disadvantages and seems to be at present the rate which holds the best immediate prospect of our gradual progress toward more equitable structures.

Small Consumers Carried at a Loss

It is a fact that the small consumer is not paying for the cost of his service. From the figures I have already given, you can readily determine that, in Shreveport, any consumers using less than 5,750 cubic feet a month are carried at a loss, a condition which is quite generally true of most cities. And, since the total revenue must show a profit sufficient to yield a fair return on our investment, it follows that the consumers who use more than this amount of gas are paying more than their share of the cost of service.

The real parasite on the gas company is the small store or office and the small apartment. The consumption of the store or office for space heating only is small, and it lasts but for a few months of the year. Then they order the meter removed, and for probably eight months pay no bill at all, though the expenses incident to the investment made for them go on very little diminished.

Present-Day Industrial Schedules

A second characteristic of the gas rates of today is the general tendency to disregard just charges for the specialized or large consumer. He is saddled with the burden of making up the loss on the small consumer, and the individual character of his use of gas, which influences markedly the cost of his service, is largely neglected in arriving at the rate that he pays. A majority of rate schedules are block rates. Their decreasing steps, in a degree, allow for a customer and commodity charges, but make no provision for demand.

Developments of the Future

What will be the future trend of gas rate structures?

The small store, office and domestic consumer should pay the entire cost of his service. Proposed 20 years or more ago, the adoption of the three-part rate for this class of consumers has been slow, due to the influence of that factor of practicability in rate conferences. It would seem wise to put our effort into obtaining for this class the nearest approach to a cost service rate that is practicable. This rate is the block or step rate with a small first step at a comparatively high rate.

Such a rate, properly designed, will cover the customer and commodity charges, and because of the similarity of the service demanded by all in this class, can be planned to take care of a proper demand charge. The large number of customers in this class and the diversity of their demand make this factor of somewhat lesser moment.

Space Heating

Rate requirements for the selling of gas for space heating cannot be dealt with in general terms, being greatly influenced by local conditions. In the North, where the largest cooking load comes in the summer, some incidental space heating may be added with profit and with a good effect on the annual load factor. For this locality conditions are much different. The reference book on house heating prepared by the Industrial Gas Section of the American Gas Association shows that for Galveston, Texas, house heating is only required in five months of the year, and 34.3 per cent of the annual requirements are demanded in one month, in January. Certainly any rate for house heating must consider these demand characteristics.

It is estimated that because of the convenience of gas heating there will be a demand for it as long as the cost does not become more than 50 per cent higher than other fuels. Undoubtedly there are instances where a certain amount of this business may be taken on with profit to the company and convenience to the customer willing and able to pay for it.

Industry the Great Market for Gas

Industry offers the greatest market for the sale of gas. The progress of our business in the coming years will depend upon the progress we make in selling gas in this field. And yet a majority of gas companies are attempting to handle this market without a rate structure, which closely paralleling cost of service, giving consideration to load factor and off-peak characteristics, will enable them to compete effectively with electricity, oil and coal.

The three-part, or four-part, rate should be universally adopted for the industrial market, with recognition as well of off-peak considerations. The practical objections to its application to domestic consumers do not apply to industrial. The American business man, since the income tax law made accountants popular, is not floored by the calculations necessary to show how much his gas service actually cost. And he is willing to pay for what he receives on that basis.

The customer, demand, and commodity charges of the three-part or four-part rate will provide a true cost-of-service basis for most industries. Some particular customers, because their demands come in an off-seasonal or off-hourly peak, may justly receive a credit because of that characteristic, without the payment they make going below the cost of service.

Conclusion

Such a rate structure, eliminiating the unprofitable consumer and thereby offering all other consumers the lowest rate comparable to their cost of

(Continued on page 476)

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT YOU CAN DO IT BETTER WITH GAS

Lesson No. 72

Heat and Change of State

Use of Latent Heat in Calculations

The simplest form of calculation which involves the latent heat factor is the determination of the amount of heat that will be necessary to melt a thousand pounds of a subsance, for example, gray cast iron, at the melting point. First the iron is brought to the melting point and it is then required to know how much more heat must be added to it to bring about fusion of the iron.

Inasmuch as the latent heat of iron in this form is 41.4 B.t.u. per pound, the calculation involved is simply the multiplication of 1,000 pounds by the factor 41.4, which gives a total of 41,400 B.t.u. of heat required.

LATENT HEAT PROBLEM
Heat Required to Melt mass of Iron at Melting Point
Solid Iron at melting point (2912° F.)
HEAT REQUIRED IS:-
Pounds Iron x Latent Heat Per Pound
1000 x 41.4 or 41,400 B.T.U.

THE REVERSE PROBLEM

When heat is used to melt a substance and is consumed not only in raising the temperature of that substance up to the melting point, but also in converting it from the solid to the liquid state, while at the melting temperature, the heat that is contained in the mass of molten substance will be evolved in its entirety when the reverse or cooling process takes place. Of course, this assumes that there are no losses of heat. In actual operations, it is a fact that considerable of this heat is dissipated. As has been explained, the cooling process takes place in a similar manner to the heating process. The molten substance first must lose certain of its heat before any decrease of temperature can be manifested, and then after it has actually passed from the liquid into the solid state again the temperature of the mass begins to fall.

Perhaps a problem involving such a change will clarify the impression on the mind of the reader regarding this thermal change. Thus, for example, it may be supposed that we have a mass of silver at a temperature of 16.51 degrees F. and it is required to find out how much heat will be evolved from this weight of metal when it cools down to the freezing point, or 32 degrees F.

The problem is again divided into two parts. In the first part we must find the amount of heat that is liberated by the mass of silver changing from the liquid to the solid state at its melting point. Latent heat of fusion of silver is 37.93 B.t.u. per lb. In changing from the liquid to the solid state there will be lost by this mass of silver, an amount of heat equivalent to 37.39 times 1,000, or 37,390 B.t.u.

Then at this point the silver begins to cool down and in cooling down its temperature is eventually reduced to 32 degrees F. The difference between the melting point of silver and 32 degrees F., or 1,619 degrees F., represents the change in temperature that takes place. This change multiplied by the weight of the molten metal, or 1,000 lbs., and, furthermore, by the specific heat of silver, or .057, will yield the amount of heat liberated in the second part of the cooling process. Thus 1,000 × 1,619 × .057 is equal to 92,280 B.t.u. The total heat liberated will then be this figure plus the heat liberated during the change of state, or 130,210 B.t.u.

Attractive Publicity from the West

How a West Coast gas company appeals to its public

A copy of the Sunday Oregonian, dated April 19, received from Portland, Ore., furnishes one of the finest pieces of gas publicity that has come to our notice.

The front page is in two colors and represents the two young ladies employed by the Portland Oregonian Home Economics Department in the act of cooking on and in a Vulcan Smoothtop gas range. On the hood we note the sign:

"If it is done with heat, you can do it better with gas. Where have we seen this sign before?"

Below is given a view of part of the audience, which for all the world looks like a New York audience in a similar place might look. The writer says that the demonstrations are made at the cooking classes held in the auditorium of the Portland Gas & Coke Company.

ing? And goes on to say how physicians are among the largest users of gas and recommend it for heating, etc., and how "A Bath a Day Keeps the Doctor Away."

One of the gas company's lady demonstrators writes an interesting article about the model kitchen and especially the control for water heaters invented by a Portlander. We find an article from the Delineator interesting to housewives and one setting forth alphabetically the many industries in which gas is used in the City of Roses. Also an article on safety rules.

A Technical Article on the Meter

An interesting article of rather technical nature, illustrated with a picture showing the meter-proving room, tells all about the testing of gas meters. A

Miss Jeanette Putnam Cramer, Head of the Home Economics Department of the Portland (Ore.) Gas and Coke Company, with Her Chief Assistant, Miss Catherine Jones

Articles on Gas Subjects

Among well-written articles we find an illustrated article on the gas clothes dryer, which ought to come in handy in a country known for its frequent light rains. An article on the interest which brides have in housekeeping. How the old style cook stove was a sad trial to the housewife. A photograph used by the American Gas Association in a recent booklet, but on a larger scale in the Oregonian, reproduces the curly-headed boy taking his morning ablutions. Or maybe it was in the evenmore lengthy article tells about the invention of gas and the gradual growth and history of the Portland Gas & Coke Company and its predecessors and takes exception to the British writers claiming the credit for inventing gas and forgetting all about Van Helmont, a citizen of the Netherlands at the dawn of the seventeenth century.

Nor is this all, for the next article tells about briquets; also what a thousand cubic feet of gas will do; and an article on the value of gas heat under

(Continued on page 475)

As The Journal Views It

THE FUNCTION OF ADVERTISING

There was recently held at Houston, Texas, the regular annual convention of the Associated Advertising Clubs of the World, which was attended by delegates from all parts of this country and Europe. It was a convention that had much of great interest, not only to those who are directly concerned with advertising, but to the general public as well.

Today advertising plays a fundamental part in modern society. It is, in fact, a vital influence in our economic system and it has taken its place as one of the most useful agents for disseminating knowledge regarding an article or a service, thus facilitating their merchandising.

The Secretary of Commerce, Mr. Hoover, in his address at the convention, in which he welcomed the advertising men of the world to the meeting, brought out a number of facts concerning advertising which are not generally known. For example, in regard to its effect on production, he said as follows:

> "The general knowledge and rapid distribution of an article, which can only be accomplished through advertising, creates large production and thus lowers costs and prices. Modern advertising is the hand-maiden of mass production. Moreover, your convincing announcements of a multitude of improvements on everything spreads a restless pillow for every competitor and drives him to further and faster exertions to keep pace."

Advertising is also important from the standpoint of the impulse that it has given to the distribution of news, good cheer and educational material to the public. It has been a prime factor in the development of periodical magazines of the country as well as for the growth of newspapers.

Mr. Hoover also said, in part:

> "The notion that advertising in its broad sense is an economic waste has been long since abandoned. I have already mentioned its social use in advancing standards of living and its economic influence upon mass production and thus its contribution to lowered costs. More directly it is an economical form of distribution. The steady increase in volume of advertising in our news and periodical press is only one proof that it is such an economical form of distribution, for if it did not secure greater results at less expense it would decrease, not increase. The consumer, searching for article or service, turns to the advertising columns of our press to learn just where to go after it, and so avoids the waste motion and loss of time and strength involved in blind search for fulfillment of his desire. All these things eliminate waste motion and time."

In closing his address, Mr. Hoover had some very pertinent remarks to make regarding American business in general. He said in closing:

> "American business needs a lifting purpose greater than the struggle of materialism. Nor can it lie in some evanescent, emotional, dramatic crusade. It lies in the higher pitch of economic life, in a finer regard for the rights of others, a stronger devotion to obligations of citizenship that will assure an improved leadership in every community and in the nation. It lies in the organization of the forces of our economic life so that we may strengthen the home and may produce happier individual life, more secure in employment and comfort, wider in the possibilities of enjoyment of nature, larger in its opportunities of intellectual life. The ferment of organization for more definite accomplishment of these things in the practical day-to-day progress of business is alive in our business world."

House Heating and Its Problems*

A comprehensive study of house heating rates, sales and load conditions

J. W. Howard

Blackstone Valley Gas & Electric Company, Pawtucket, R. I.

The Business Is Desirable

Because of our examination into the nature of the house heating load in order to determine the possibility of offering a more attractive gas rate, should the business be desirable, we found that the business is certainly desirable; so much so that a special two-part rate is offered to house heating customers, making the average cost 75 cents per M., which compares with the regular domestic block rate of $1 per M., average, when applied to large users such as house heating customers. We have no special industrial rate.

The Selling Problem

Having then determined that house heating should be a branch of our endeavor, came the problem of selling. A little thought will show that you are not selling gas; you are not selling gas-fired central heaters; you are selling a service which is less easily described than the service of transportation, the service of electric power or light, or the service of gas as a fuel for cooking or industrial heating operations. In any of the foregoing, you start with some unaccomplished task and arrive at a desired result. In house heating you undertake to maintain a home always comfortably warm without any trouble or attention from the occupants, so that there never is an unaccomplished task—nothing to use as a measure of efficiency or of service except the prospect's own memory of annoying experiences with his coal or oil equipment.

Type of Salesman Required

Let us assume that we have the proper type of man for house heating sales work. We would find that he is the combination of a satisfactory salesman and engineer; that he has the ability to gain the customer's confidence in a very short time so that his remarks will not be questioned. His knowledge of heating systems of all kinds, from one-car garages to theaters and stores, is so infallible that after a preliminary inspection of the customer's premises, he is able to tell some of the minor troubles the customer is then having with the system and he might even suggest some changes for improvement regardless of whether the customer shall choose to install a gas boiler or not. During his first call on a prospect he attempts, by the mere relation of a few facts, to bring the prospect to just that stage of interest where the prospect is willing to allow his house to be measured and estimated upon. This usually is not difficult; even men who are determined not to have anything to do with gas equipment are at least willing to hear a quotation on their own house if they are assured that no obligation shall be entailed.

The First Interview

During this first interview, one of the most frequent questions asked (and a troublesome one) calls for a comparison of costs between gas and coal heating. We avoid a reply if possible, explaining how a number of variables, such as types of furnaces, the human equation in furnace firing and varying furnace efficiencies, make an accurate answer impossible unless the measurements of the house are known. We also point out that with gas equipment the house is really always heated to the proper temperature at the proper time, a phenomenon which rarely obtains with coal heating, thus making a comparison of straight fuel costs unfairly in favor of coal. If the prospect still insists that we ought to have some idea, we admit that our experience so far shows that on the average 75-cent gas costs about 25 per cent more than coal for heating. For those few installations where we have been able to get the coal costs, this is true—though it would probably be a little low for general application. In fact, on one large installation where the owner considers a fireman's labor along with his coal bills, the cost of gas is less than the cost of coal.

High Cost of Boiler Equipment

Complaints against the high cost of boiler equipment are very easily answered by comparing them with the invariably higher cost of a good oil burning system, especially when it is pointed out that the customer receives a new boiler which can, if desired, be so piped that he can use either gas or coal, or **both** together.

It is, then, the salesman's initial problem to secure this first interview. He may do this by letter or by visiting friends of officials of the company, or by approaching those men whom he meets at different public and civic gatherings.

Classes of Prospects

You cannot tell from a man's position in life, as indicated by his listing in a directory, how he would receive the proposition to render him perfect heating service. You cannot, with certainty, gauge your prospects by their estimated income—what you must know is how valuable a man considers that part of his own time which he has to devote to the nursing of his coal heater. We have as a house heating customer a man whose daily occupation consists in driving an automobile delivery truck

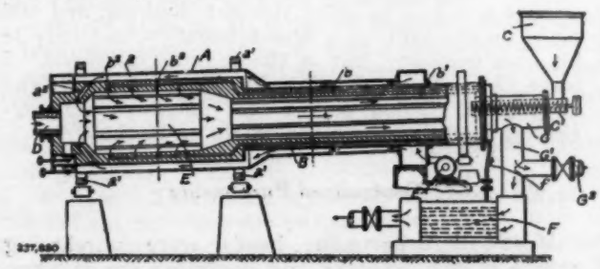
(Continued on page 473)

*Delivered at the annual meeting of the New England Association of Gas Engineers, Providence, R. I., February 18-19, 1925.

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

ROTARY GAS-MAKING RETORT

THIS apparatus is of the kind in which the material to be treated is powdered and fed at one end of a rotary retort and carried forward into contact with hot gases generated by the combustion of powdered fuel and air at the opposite end of the retort. The retort A is provided with a firebrick lining B, leaving a space (a) between them to preheat the air before it enters the retort. Passages (b) are formed in the inner refractory lining, through which steam is passed and superheated before entering the retort through passages b^2. The retort is inclined from inlet to outlet and provided with runner bands a^1. The powdered fuel to be treated is supplied from a hopper C by a conveyor C^1, and is agitated by means of shelves b^1 on the sides of the retort.



The powdered fuel is blown in at D, and the supply of air is injected by the blower Ex, preheated in the passage a and delivered to the combustion chamber E through passages a^2. The gases leave the retort through passage G, and thence to the outlet G^2 or a part of the gases may be passed through a waste heat boiler F, which supplies steam through a pipe f to the heating passages b, and thence through the openings b^2, into the retort. Alternatively, all or some of the passages b^2 may be used for admitting secondary air instead of steam. The powdered fuel is blown in at D at a sufficient speed to keep the solid particles in suspension.

As the combustion gases are not required to carry the fuel forward, their speed need not be high, and very little unconsumed carbon is carried forward through the condensing plant. The fuel from the hopper C passes forward through zones of gradually increasing temperature, and a long duration of contact is obtained.

To produce illuminating gas, the apparatus is constructed in two sections. In the first section, powdered fuel is distilled by the sensible heat of water gas and the partly carbonized fuel then fed into the next section, where it meets the combustion gases. The retort may also be used for the reduction of ores by introducing the ore and powdered fuel at one end of the retort and blowing in air and powdered fuel at the other end of the retort. The retort may also be employed in a similar manner for the treatment of sewage.—(British Patent No. 227,880).

CARBONIZATION OF COAL IN CONTINUOUS VERTICAL RETORTS

A SOUTH WALES gas coal consisting of a mixture of 60 per cent of Pentre and 40 per cent of No. 3 Rhondda seams from the Meiros Colliery, containing 1.48-1.78 per cent of moisture, 9.45-10 per cent of ash and 31.94-32.22 per cent of volatile matter, was carbonized in a setting of continuous vertical retorts (Glover-West), using 5, 12.5 and 20 per cent by weight of steam respectively. The heat required to carbonize the coal and remove the products at the working temperature was 9.09 therms when using 5 per cent of steam, 13.07 therms with 12.5 per cent steam and 17.54 therms with 20 per cent of steam.

The following yields were obtained per ton of coal with a combustion chamber temperature of 1,258 degrees: gas (493 B.t.u. gross per cu. ft.) equivalent of 74.3 therms, coke 13.83 cwt., tar 9.22 gals., and ammonium sulphate 21.3 lbs., when using 5 per cent of steam; gas (467 B.t.u.) 82.5 therms, coke 13.55 cwt., tar 10.60 gals. and ammonium sulphate 24.94 lbs. when using 12.5 per cent of steam; gas (458 B.t.u.) 88.0 therms, coke 13.28 cwt., tar 11.78 gals. and ammonium sulphate 23.55 lbs. when using 20 per cent of steam. A short test without steam yielded gas (541 B.t.u.) equivalent of 65.0 therms.—(Fuel Research Board, Technical Paper No. 10).

LOW TEMPERATURE CARBONIZATION

AN article published in Chemical Age of London, March 21, 1925, contains a very excellent description of low temperature carbonization from three standpoints, (1) Review of the difficulties of early work on this subject, (2) Classification of processes for carbonizing coal at low temperature, (3) Choice of plant in view of products required.

It is pointed out in the first place that the main difference that lies with most coke carbonization apparatus is that the engineers and chemists and others who design the retorts fail to understand and appreciate the properties of coal. One fact that complicates the situation is that no two coals are ever alike. A description is given of the action of temperatures in various types of coal such as non-caking coal, a medium caking coal and a strongly caking coal.

Retorts are classified in the aforenamed classes. According to one classification, the heating is per-

formed by external or internal classification. The process may be continuous or intermittent. Thus, there are the externally heated retorts with intermittent feed, the externally heated retort with continuous feed, the externally and internally heated retorts with continuous feed and the internally heated retorts with continuous feed.

As far as the selection of a plant is concerned for operating at low temperatures, there are a number of factors which must be considered, the following of which are most prominent:

1—The nature of the material to be carbonized.

2—The object in view, i.e., whether a low temperature coke, the tar or the gas, or all three, are products desired.

3—The efficiency and ease of working and control of the retort itself.

4—The cost which is amounted intermittently and connected with all three types of retorts.

Purchasing for a Public Utility *

The standing of a purchasing agent from an executive viewpoint

A. B. Tenney

IN speaking from the public utility viewpoint, the position of purchasing agent is as important as that of treasurer and, doubtless, this is also the same in other purchasing fields. The treasurer looks well to the finances of his organization. He is careful not to overlook the small amounts when caring for the large items of receipts and expenditures. He is desirous of having his concern make money for its stockholders and to establish its position in the community. The purchasing agent, by careful buying, can save large items and small sums and obtain apparatus and commodities that will be found well adapted and economical for his company's use. These are definite earnings for the owners of his company and should be as carefully and eagerly sought as the handling of funds by the treasurer. Also in another way the two offices are equal in importance. Absolute honesty and integrity are required and essential in both and in the purchasing agent of prime importance. It is a saying that "the exception proves the rule."

Usefulness Demonstrated by Ability and Integrity

From an executive's standpoint, then, the purchasing agent must maintain his usefulness by demonstrations of his ability and his integrity. These two essentials can well go hand in hand, with integrity possibly in the lead. In fact, it seems to me that the purchasing agent has established himself largely by the elimination of the old-time "friendship buying," and, more important, the elimination of graft, both petty and wholesale, that prevailed to such an extent a dozen or fifteen years ago. I understand that your National Association of Purchasing Agents has done much to raise the standards of purchasing to a high plane and has brought its members substantial recognition as the members of a real profession. Your association has, then, done well, both for the individuals making up its membership and the concerns employing them.

Old-Fashioned Honesty

By integrity I mean real, old-fashioned honesty. There can be nothing artificial in the honesty the purchasing agent must have. This fundamental quality will lead to clear, straight thinking, and will place its observer on a firm foundation, not only in his own company, but in the commercial world. I want to emphasize that integrity, both of morals and of purpose, should be the star to which the purchasing agent's wagon can safely be hitched.

Centralized Purchasing

Most all department heads were purchasing agents in the old days and doubtless are in some companies now. We can see increased efficiency of all due to a centralized bureau handling all purchases. Department heads do not spend their time with salesmen, but can confine their efforts to their own operations and studies. In the old days when the executive considered he should affix his signature to the company's orders, what happened? Most of the more important purchases were made almost entirely on the friendship basis. An acquaintance sold coal. Why not buy of him? It seemed to burn well. Others who were neighbors, influential citizens, and some, I think now in mature reflection who were very clever salesmen selling hardware, tools, electrical supplies and the like, got business by calling around with some such persuasive argument as, "Wire is going up, I see you need so many miles of this and some of that, I'll send it along," now it is the purchasing department that does the prophesying and recommending from the buying standpoint, instead of the selling, with considerable more benefit and profit to ourselves.

Variety of Contact in Purchasing Department

It seems to me that the purchasing department is one branch of our business that is fortunate in having contact with all the other departments and with

(Continued on page 474)

*Delivered at the First Conference of the Public Utility Group of the National Association of Purchasing Agents.

Catechism of Central Station Gas Engineering in the United States

Installment No. 72

(Continued from last week)

The calorific value claimed for the gas made, 440,000 B.t.u., is therefore greater by 20,000 heat units than the total amount of heat in the materials employed, and the claim is manifestly impossible of realization.

Comparison of Gas and Electricity Costs

347. With gas selling at $1.25 per 1,000 cubic feet and electric current at 11 cents per kilowatt hour, what are the comparative costs of one candle power per hour furnished by an incandescent gas light and an incandescent electric light, respectively, the cost of renewals being left out in both cases?

Ans. A 16 C. P. tungsten incandescent electric lamp will develop 16 C. P. with a consumption of 20 watts per hour, or 1.25 watts per candle power per hour. At 11 cents per kilowatt hour this will cost $\frac{1.25 \times 11}{1{,}000} = \frac{13.75}{1{,}000} = 0.0138$c. per candle power per hour. This is the maximum efficiency for electric light for domestic purposes.

A good commercial incandescent light will develop 20 candles per cubic foot of gas per hour, and will therefore require one-twentieth or 0.05 of a cubic foot per candle power per hour. The cost, with gas at $1.25 per 1,000 cubic feet, is $\frac{0.05 \times 125}{1{,}000} = \frac{6.25}{1{,}000}$ = 0.0063c. per candle power.

The cost of gas under the assumed conditions is therefore $\frac{1}{2.3}$ of that of electricity for the same candle power.

Contents of a Tank

348. A cylindrical water tank is 25 feet high and 35 feet in diameter. What are its contents in American gallons when full? What is the weight of the water contained in it when full? What is the pressure per square foot on the bottom when full?

Ans. The area of a circle 35 feet in diameter is 962.12 square feet. Since this is the base of the cylinder and its height is 25 feet the volume will be $25 \times 962.12 = 24053$ cubic feet.

One cubic foot contains 7.48 American gallons.

$24053 \times 7.48 = 179{,}916.4$ American gallons contained in the cylinder or tank.

One cubic foot of water weighs 62.5 lb.

$24053 \times 62.5 = 1{,}503{,}312.5$ lb. = the weight of water in the tank.

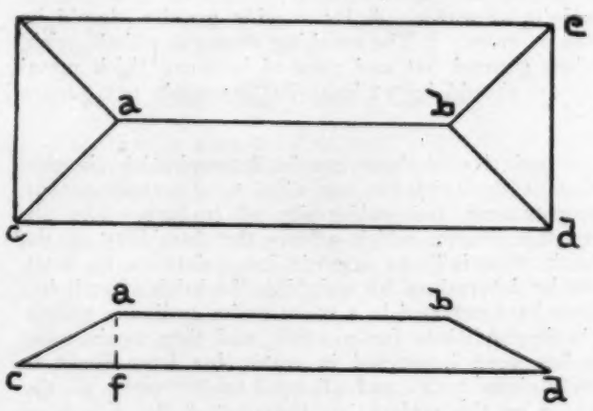
The pressure per square foot on the bottom is 62.5 (weight of a cubic foot of water) $\times$ 25 (depth of water in feet) = 1562.5 lb. per square foot.

The pressure per square foot on the base is explained thus: If we imagine a cubic foot of water weighing 62.5 lb. to be solidified and placed on the floor, the pressure on the square foot of the floor occupied by the cube will be 62.5 lb. If a similar cube of water be placed on top of the first cube, the pressure on the square foot of floor occupied by the first cube will be $2 \times 62.5 = 125$ lb. Twenty-five such cubes, one on top of the other, will exert a pressure of $25 \times 62.5 = 1562.5$ lb. on the square foot. The pressure per square foot of any liquid on the bottom of a tank is equal to the weight of a cubic foot of the liquid multiplied by the depth in feet.

Coke Capacity Problem

349. A wagon with a body measuring 10 ft. 4 in. in length by 4 ft. 0 in. in width and 2 ft. 0 in. in depth comes for coke. How many bushels will it hold, first, when filled even with the top edges of the sides, and second, when the coke is sloped up to a ridge one foot above the top edges of the sides? Give your calculations.

Ans. The volume of the wagon body, and therefore the volume of the coke contained in the wagon when it is filled even with the top edges of the sides, is 10.33 ft. $\times$ 4 ft. $\times$ 2 ft. = 82.64 cubic feet. The volume of the standard bushel for measuring coke, which is given in the answer to question No. 10, is 1.5901 cubic feet, so the wagon when filled even



with the top of the sides will hold $\frac{82.64}{1.5901} = 51.97$, or, in round numbers, 52 bushels.

When the coke is sloped up above the sides to a ridge one foot above their top edges, there is added to the volume of the wagon box an additional volume which is that of a wedge having the dimensions shown on the sketch. The volume of a wedge is obtained by adding to the length of the edge twice the length of the base and multiplying this sum by one-sixth of the product obtained by multiplying the height by the breadth of the base. In the present instance, assuming the slope to be such that the base of the triangle, a, c, f, is twice the altitude, the length of the edge, a, b, is 6.33 ft. the length of the base c, d, is 10.33 ft., the breadth of the base, d, e, is 4 ft., and the height or altitude, a, f, is 1 ft. The volume of the wedge is therefore $[6.33 + (2 \times 10.33)] \times 1\text{-}6\ (4 \times 1) = 26.99 \times 0.667 = 18.00$ cubic feet, and the total volume of coke held by the wagon when loaded in this way is $82.64 + 18.00 = 100.64$ cubic feet, or $\frac{100.64}{1.5901} = 63.29$, or, in round numbers, 63 bushels.

SECTION VII.—MASONRY CONSTRUCTION

Characteristics of Good Building Brick

350. What are the characteristics of a good building brick, and how can a brick be tested to determine whether or not it possesses these characteristics?

Ans. Baker's Treatise on Masonry Construction, page 37, contains the following paragraph: "Requisites for Good Brick. 1. A good brick should have plain faces, parallel sides, and sharp edges and angles. 2. It should be of fine, compact, uniform texture; should be quite hard, and should give a clear, ringing sound when struck a sharp blow. 3. It should not absorb more than one-tenth of its weight of water. 4. Its specific gravity should be two or more. 5. The crushing strength of half brick, when ground flat and pressed between thick metal plates, should be at least 7,000 pounds per square inch."

Regularity of shape can be determined by inspection of the brick, as can also, to a certain extent, compactness and uniformity of texture. The absorptive power, which affects the durability of the brick, especially as regards its resistance to frost, can be determined by weighing the brick after it has been kept exposed in a room under ordinary atmospheric conditions for a week, and then again after it has been immersed in water for from forty to forty-eight hours and allowed to dry until all the water on the surface has evaporated, the difference between the second weight and the first one being the weight of water absorbed. The smaller the amount of water so absorbed, the greater will be the durability of the brick.

In determining the crushing strength of the brick, different methods are followed. Sometimes half brick are tested and sometimes whole ones. In some cases the surfaces to be subjected to the pressure are ground accurately to planes parallel to each other, while in other cases the surfaces are leveled up by putting on a thin coat of plaster of paris, and in still others the bricks are put into a testing machine in the rough state. The best practice is to either grind the faces or level them up by the use of plaster of paris, so that the pressure is applied equally all over the surface. These crushing tests are usually made in a hydraulic press provided with cast iron pressing surfaces, which are self-adjusting.

The test for transverse strength is about the most valuable that can be given to brick to determine its practical value. It is made by supporting the brick on two supports with thin edges placed the required distance apart and then loading it in the center with a load which is applied by a beam with a thin edge bearing on the brick, the load required to break the brick being carefully determined. The modulus of rupture as determined by this test should be at least 1,000 pounds per square inch.

Definition of Lime and Cement

351. What is common lime and what is the raw material used in its manufacture? What is hydraulic lime and what is the raw material used in its manufacture? What is hydraulic cement and what is the raw material used in the manufacture of natural hydraulic cement?

Ans. Common lime is the substance resulting from the calcination of pure or nearly pure limestones, such as marble, chalk, etc., at a high temperature applied for a sufficient length of time to drive off the carbon dioxide, CO_2, in the limestone. It is principally calcic oxide, CaO, with from 3 per cent to 10 per cent of impurities such as silica, alumina, magnesia, oxide of manganese, and traces of the alkalies. It is highly caustic, with a strong affinity for water, rapidly absorbing nearly one-quarter of its own weight of this substance when brought into contact with it. This absorption produces a great elevation of temperature accompanied by an increase of from 2½ to 3 times the original volume and the reduction of the lime to an impalpable powder (slaked lime or calcic hydrate, $Ca(OH)_2$) which forms with water an unctuous paste. The paste, in common with mortar made from it, will not harden when kept under water, in damp places or out of contact with air.

Hydraulic lime is the lime made by calcining limestones containing a larger percentage of impurities than those from which common lime is obtained.

(Seventy-third Installment Next Week)

HOUSE HEATING AND ITS PROBLEMS

(Continued from page 468)

while one of the wealthiest men in town feels that he can't affort anything more expensive than coal.

The Second Interview

Having once seen the customer and secured his permission to make an estimate, the salesman paves the way to the second interview. 'It is at this second interview that he must exert his best effort. The number of sales points that can be brought out are almost innumerable. If he has the advantage of a year's experience in house heating behind him, he has a wealth of personal experiences of other customers to pass on, and these are always listened to much more readily than the relation of unsupported arguments. A minimum of two visits is necessary; there is no telling how many more might be necessary before a man will definitely say "yes" or "no."

Securing Preliminary Data

A company which feels that it is treading on treacherous ground in encouraging house heating had better secure a number of representative installations, perhaps by some special arrangements with the customers, in order to be sure that it really wants the business, and also to secure the necessary data which it will have to have in order to undertake the business on a larger scale later on.

The Rate Question

To the management, the question of rates is perhaps the most important. In our territory we found that with a limited personnel handling these sales we were able to only double our number of house heating customers the second year. But whatever of chagrin might lie in the failure of the sales force to sell at quite the headlong speed they might wish is offset by the assurance that this house heating business is not going to grow over night, like the proverbial mushroom, and so disturb the manufacturing and distribution departments with the problem of taking care of it all at once. We do have time to think. However, if the combination of sales effort and the influence of satisfied customers continues so that each year sees a doubling of the number of house heating customers, we will gradually approach a point where the amount of gas distributed to a square mile of territory will reach such proportions that the cost of distribution per M. cu. ft. both for operating and fixed charges, as well as commercial and general expenses, will decrease to such an extent that we can sell gas for, relatively little more than the cost of production and fixed charges on the plant.

Data secured on 26 customers in Woonsocket show that because of their heating requirements they will consume 468 per cent of their previous domestic consumption. When the time comes that we will supply from two to ten times as much gas **per customer** as we do now, the whole complexion of the gas business will have changed so much that a general revision of the rate structure will be in order anyway. Then it would seem only proper to pay some attention to those problems which confront the man who proposes to construct a special building heating rate.

Quantity Charge

It was felt that this charge should cover the increment cost of manufacture, not including such charges as would vary with 24-hour demand. This charge was assumed to cover all manufacturing material, less value of residuals and 30 per cent of retort house labor, generator house labor, condenser and engine room labor, purification labor and miscellaneous labor, together with 50 per cent of total maintenance expense. All other manufacturing charges were considered as attributable to 24-hour demand.

24-Hour Demand Charge

This charge covers full fixed charges on generating plant, holders and manufacturing supplies used to supply this class of service and also increment cost on that portion of manufacturing labor and maintenance not included under quantity charge.

A little different method was used in determining in various companies what valuation fixed charges should be applied to, but from a theoretical standpoint there was no question but that fixed charges should be figured on present replacement value. These charges were taken at 12½ per cent and resulting figure divided by the maximum daily capacity of the plans in question, thus obtaining a figure for fixed charge per M. per day per year.

Manufacturing labor. including superintendence and maintenance not charged to quantity, were figured as increasing on a 30 per cent basis with new business taken on in volume. Expense figure thus resulting was divided by maximum daily send-out to date, thus obtaining an operating expense figure in terms of M. per day per year.

Half Hour Demand Charge

This charge should cover such additions in fixed charges and operating expenses as may be occasioned by additions to mains which must be made to care for this additional business. Upon making an analysis of distribution systems of the companies in question, and particularly of the Pawtucket Gas Company and the Blackstone Valley Gas & Electric Company, it was found that the present systems plus such additions or changes as were already under way or were obviously necessary to care for existing and immediately prospective load would easily care for any additional load which it seems probable that the companies might take on within the next ten years. In other words, such sections as did not now have sufficient main capacity to properly care for boiler load were already loaded to such

an extent that some change must be made, regardless of whether or not boilers were installed. The committee also felt that should the load grow to proportions beyond their original expectations, it would be possible to care for this by a relatively small investment through the installation of high pressure lines from the plants to various distribution centers.

In view of the foregoing, it was decided that no charges for so-called half-hour demand charge should be made against house heating business.

Customer Charge

This charge was assumed to cover increased investments in service pipe and in meter, and various expenses incidental to rendering service to the customer, not included in preceding charges.

A majority of service pipes which have been laid within recent years are of sufficient capacity to care for boilers without increase, and in the case of pipes of insufficient capacity, these would probably be renewed anyway with larger pipe within a relatively few years. Therefore, it was figured that on the average the additional cost of a service line designed to care for a boiler would be about $5 over the cost of the same line without considering the boiler. Fixed charges on this additional investment and on additional investment of a 20-B meter were figured at 12½ per cent. To this, the meter maintenance, service cost, and expense of meter reading, billing and collecting per annum were added, the final result being divided by 6 to obtain a customer charge on a six months' basis.

Conversion of Foregoing Into Two-Part Rate

It was not thought advisable to attempt to charge the customer on the basis of a three or four-part rate, even though this has been more or less successfully done in other sections. The general feeling of the committee was that the simpler the rate the more readily the service could be sold, and, so long as the rate gave the compan ythe proper return on the average installation, there seemed to be no real objection to simplifying this as far as possible. Therefore, the Blackstone Valley Gas & Electric Company and the Pawtucket Gas Company adopted a two-part rate based upon maximum hourly demand expressed in hundreds of cubic feet per hour chargeable for six months of each year, and a commodity charge based upon total amount of gas consumed during each month. The Fall River Gas Works Company and the Haverhill Gas Light Company adopted a commodity charge form of rate, thus further simplifying the matter. All of these rates show a gross income on the average customer, taken over the entire heating season, of approximately 75 cents per M. cubic feet.

In order to express charges outlined above in these two forms of rates, an average was taken of a representative group of customers on the lines of the Blackstone Valley Gas & Electric Company and the Pawtucket Gas Company. This group had an average maximum hourly demand per boiler of 362 ft. per hour with an average annual consumption of 500,000 cu. ft., thus giving an average annual hour's use of demand of 1,380 hours. Total cost of rendering this service was calculated on the basis of the average thus determined and to this additions were made for management expense and Federal income taxes, together with some allowance for a margin of profit other than interest charges already provided for. It was found that combining 24-hour demand charge and customer charge in terms of hundred feet of maximum demand per hour would give a demand charge, or, as it was later called in the finished rate, a capacity charge, too high in proportion to commodity or quantity charge. Therefore, the capacity charge was reduced somewhat and the quantity charge increased to show the same rate on the average customer, thus making a more practical though possibly not as exactly an equitable rate.

PURCHASING FOR A PUBLIC UTILITY HEAD

(Continued from page 470)

the outside business world as well. Also in the purchasing department a man must know something about everything he buys, and that in itself is a liberal education. From what I observe I can safely add that the buyer today frequently knows more about the material he is purchasing than the salesman. Shouldn't the possession of this knowledge demonstrate to any purchasing agent who may be struggling to establish himself with his associates, that he is the logical contact between the user and the manufacturer?

The advantages of collective purchasing are manifold and extremely important in a public utility group. Better prices can be obtained by our purchasing department in combining the requirements of the companies under our management and thousands of dollars saved in this way.

Standardization of Purchases

Aside from these savings that can be made by the unrestricted use of the public utility purchasing department, the matter of standardization can well be mentioned. In a group of companies this, of course, is important, and is brought about largely by the interchange of ideas and experiences the purchasing agent can arrange among the various units and outside sources. In the smaller company it is just as important as the purchasing agent is in a position to learn of new or better articles coming on the market or in use by others, when the operating departments might well be working or thinking each independent of the other and not in contact with outside sources of information.

Personal Purchases

I am quite sure the purchasing agent can demonstrate to his executives in one other way that he is capable of handling the large items of expenditure. That is the matter of what I might call "Personal Purchases." In our organization we allow employees to use the purchasing department in buying for them many articles that can be purchased from the concerns the purchasing department deal

with. The purchasing agent regulates this by deciding what can legitimately be bought through the company for the individual, and to what extent the service can be used. Not only is this good welfare work and, in many cases, of material financial assistance to the employee, but it shows the executive how the purchasing department is on the job by saving him in the purchase of his automobile tires, for example, as well as showing him a knowledge of where to buy and how to buy, is useful among the small things as well as the large.

The purchasing agent acts as a censor and his department as a clearing house when the requisitions are received. When the purchase order is issued we have confidence that the company will receive what is best for them to use, that it will be on hand when needed to assure continuity of operation and that the price has been approved by those who are skilled in the profession of buying.

ATTRACTIVE PUBLICITY FROM THE FAR WEST

(Continued from page 466)

an electric washing machine, provided the tub isn't made of wood.

And even this isn't all, for we find a picture of the new plant of the Portland company, where it treats its pipe to prevent corrosion; and a clever article by another one of the demonstrators, Mrs. Rose Bartlett, whose picture accompanies the write-up, about what the company does for all buyers of gas ranges, instructing them how to use them to best advantage instead of floundering about and then blaming the gas company or their product for the fact that the housewife doesn't understand how to use it.

Other Articles

A few short paragraphs intersperse the larger articles, such as the fact that the use of gas appliances tends to eliminate fires, as shown by the official records. An illustrated article on a new restaurant installation; an instructive treatise on carbon monoxide; an article on Old King Cole, who did not use gas; a piece about the schools which use gas for heating and where the attendance showed better in each case than in schools heated otherwise, on account of the more regular, even temperature possible with gas thermostatically controlled.

All in all, it is a wonderful piece of publicity coming from the Far West and the articles are in such different style from one another, and so interesting, talking down to the masses instead of being couched in technical verbiage, that the Portland Gas & Coke Company is to be complimented on its achievement.

GAS PROVES BETTER FUEL IN BRASS FOUNDRY

A Rhode Island foundry which used to throw away 25 per cent of its expensive brass and bronze castings because they proved defective when tested, changed its fuel from coal to gas. Its rejections dropped to only 3 per cent, and at the same time its operating costs were reduced and the working conditions for the men were greatly improved.

The firm had tried every process it could discover with coal as the fuel, but although there were certain advantages they could not get away from the fatally high percentage of defectives. Extensive experiments were made with coke and oil. They were not materially better. When gas was tried the firm specified that "it must reproduce the ideal conditions of melting with coal, but have none of the objectionable features."

The gas made good. It was found that with gas a desired temperature or furnace condition could be reached at will, regardless of atmospheric conditions, and that this condition could be reproduced exactly for batch after batch of the alloys.

The gas eliminated the labor of building fires hours before the start of the work, cleaning the fires, carrying out ashes and handling new fuel. It also eliminated the smoke, dirt and terrific heat around the furnaces, which prevented the "melter" from giving his best attention to the work. The men liked this so much they did more and better work.

Members of the Portland, Ore., Gas and Coke Co.'s Cooking Class

OUT-OF-DOOR ADVERTISING

(Continued from page 460)

time and they are lost for all practical purposes if the prevailing tones are dark.

The Color High Spot

The color high spot, if there is one, should come as near as possible in the center. It is the spot that first catches the eye and, if properly placed, the rest of the design will also be seen. Art posters are, in the opinion of the writer, excellent advertising. A pleasing design reflects credit on the company that is responsible for it. It is a debatable question whether an advertising message can be sacrificed for a pretty picture. It is possible that the picture may secure just as much kindly comment and consequently do as much in obtaining good will as a plain advertising message. But while it may be admitted that art and advertising are affinities, they are not inseparably mated. A perfectly good and satisfactory poster can be produced without any reference to art, in an artistic sense.

The same message on many boards is better than a diversity of messages. A tie-up between posters, billboards and newspapers helps put the story over. Seasons should be considered when selecting designs as well as colors. Blazing reds in July are irritating to many people, however comforting they may be in December. Certain greens and yellow will not stand exposure to sunlight and posters printed in them soon fade and look shabby. In fact, there are so many things to find out about out-of-door advertising that it seems doubtful if anyone has yet discovered all there is to know about it. The oldest and most experienced hands at the game are constantly making mistakes; so the beginner need not be discouraged if he pulls a few "boners."

In reviewing some of the facts connected with out-of-door advertising, it was not intended to dodge the question first propounded, "What's the use of it?"

The Value of Out-of-Door Advertising

Some answer to this question has been already made, but the inquirer may be thinking, perhaps, of a poster he has seen calling attention to the fact that gas is the best fuel to use for soft metal melting. He reflects that there are comparatively few people interested in metal melting and most of these have already been "sold" on the proposition and are using gas, and the rest could be solicited directly by salesmen, or by mail, at much less cost than by posters.

It is true that comparatively few of the people who see this particular poster are concerned about gas for metal melting. It is also true that comparatively few who read a Rolls-Royce ad will ever purchase a machine of that particular make. But the "ad" sets them thinking, stimulates their imagination and is eventually an aid to their determination to purchase some make of a machine suitable to their needs and within reach of their finances.

The magnetic pole of a man's mentality is the inevitable "I." What does it mean to me? How can I profit by it? Why does somebody take pains that I should see it? An immediate inability to place himself within the magic circles does not cause him to discard and forget the matter. When a man says, "It is of no interest to me," he disproves his own statement. A matter of no interest provokes no comment.

Association of Ideas

Then this poster is followed by others showing gas as the select fuel for other industrial purposes. Gas becomes associated in his mind as the proper thing for industrial use. If his own factory does not adopt it, he begins to ask "Why?—Everybody else does." He begins to regard a gas-heating equipment as being on a par with other modern factory conveniences, proper ventilation, good light and good sanitary conveniences. He helps create the invisible urge towards adopting gas as the universal factory fuel.

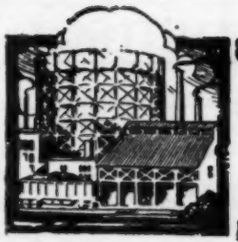
Dad pays the bills and has to be "sold" on the wisdom of his purchase when he buys a machine, but don't forget he would not be "sold" half so soon or so readily if mother and the kids didn't supply the "urge."

We can create an urge towards the more extended use of gas for factories by advertising gas for factory use to everybody. As one very clever gentleman puts it: "We create an atmosphere." Out-of-door advertising accelerates the building of big business.

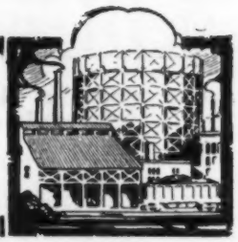
PROBABLE RATE STRUCTURE

(Continued from page 464)

service, will put the gas utility in position to win the business it should have, and in the increase of its business to offer even better rates, enternig that circle of progress in which the better rates bring more business and the more business, in turn, better rates. A system of rates, which carries the unprofitable consumer at the expense of the profitable one, as many do today, tends under the competitive conditions of business to "kill the goose that lays the golden egg," and the gas company enters that vicious circle of less business and higher rates following each other successively. Are we going to stand still, which means go backward, for our competitors are moving on, or are we to press our way forward to an even more important place in the industries of the world. With a personnel such as you gentlemen, awake to our needs on rates and other questions, I am confident of the future of the gas industry.



NEWS OF THE GAS INDUSTRY



Plans Completed for the New England Sales Conference

Detailed plans have now been completed for the New England Sales Conference, which will be held at Gloucester, Mass., June 2 to 5, inclusive.

The program which will be presented at the meetings is given below, and while much detailed, is still not entirely completed:

(Tuesday, June 2—9:30 a. m.)

Theme: Looking Ahead in Gas Sales.

Address of welcome — Wm. Gould, commercial manager, Gas & Electric Improvement Co.

Response—Alexander Forward, secretary-manager, American Gas Association.

"Our Commercial Future," Arthur E. Childs, president, Massachusetts Lighting Co.

"What We Can Learn from Other Industries," Edward F. Cullen, sales manager, Educator Cracker Co.

"The A. G. A. Three-Year Sales Plan," R. J. Canniff, chairman, Sales Stimulation Committee, A. G. A.

(Wednesday, June 3—9:30 a. m.)

Theme: Organizing for More and Better Sales.

"Successful Sales Organization," Prof. T. H. Dillon, Harvard School of Business Administration.

"Planning for Future Sales," Thomas F. Kennedy, manager, new business department, H. L. Doherty & Co.

"National Co-operation for Sales."

"Selling to Women," representative of Blackman Advertising Agency.

(Thursday, June 4—9:30 a. m.)

Theme: Selling More Gas and Appliances.

"Public Relations and Commercial Activities," F. C. Freeman, vice-president, Providence Gas Co.

"Display Advertising—National and Local," P. F. O'Keefe, president P. F. O'Keefe Advertising Agency.

"Selling by Mail," Charles R. Fiers, president, Direct Mail Advertising Association.

"Selling Dirct to Consumers," Wm. G. Keay, branch manager, Eureka Vacuum Cleaner Co.

"Sizing Up Your Market," Percival White, market counselor.

(Friday, June 5—9:30 a. m.)

"Building More Gas in Buildings," W. A. Adams, chairman, Architects & Builders Service Committee, A. G. A.

"The Contractor," open discussion.

"The Dealer and You," Roy Soule, editor, Hardware Dealers Magazine.

"House Heating," J. L. Alexander, manager, Haverhill Gas Light Co.

———, N. T. Sellman, engineer of utilization, Consolidated Gas Co. of N. Y.

"Fifteen Minutes of Home Service," Ada Bessie Swann, chairman, Home Service Committee, A. G. A.

"The Radio, a Sales Builder," Commercial Manager Radio Station WEEI.

The general plan is to hold business sessions in the morning to lunch time and to devote the afternoons to recreation or group discussions of the morning papers.

A. G. A. Executive Meeting Held in Atlantic City

The executive meeting of the American Gas Association was held in Atlantic City, N. J., May 22 and 23. Nearly 100 prominent men in the industry from all parts of the United States were in attendance and represented every phase of the industry.

Many far-reaching plans which were discussed are bound to be of inestimable value to the gas industry. Several committees were appointed to make intensive investigations of various propositions. As action on these problems is finally decided upon they will be placed before the whole industry.

Moving Pictures of Gas Shown at Atlantic City

The Committee on Education of Gas Company Employees arranged a showing of the motion picture film, "Serving Rochester," in the Belvedere room on the 11th floor of the Hotel Traymore, Atlantic City, N. J., Thursday, May 21, at 7:30 p. m. The committee cordially invited all members of the American Gas Association, who were in Atlantic City for the Spring Conference and committee meetings at that time, to see this film.

The film was made for the Rochester Gas & Electric Corporation and was shown through their courtesy. It gave a pictorial description of the manufacture, distribution and utilization of gas and electricity and is intended for use in schools, clubs, etc. This affords an excellent opportunity to see what many have pronounced the finest motion picture of its kind.

Geo. E. Whitwell Joins Byllesby Operating Force

Halford Erickson, vice-president in charge of operation of the Byllesby Engineering & Management Corporation, has announced the appointment of Geo. E. Whitwell, effective May 1, to the operating staff in the Chicago office of the organization, to be in charge of commercial development work in the gas department. Mr. Whitwell, formerly general superintendent and manager, new business department of the Tacoma Gas & Fuel Co. division of the Mountain States Power Co., and co-inventor with D. J. Young, manager of the Tacoma company, of the Young-Whitwell process for the manufacture of carburetted water gas, will assist the operated companies in developing their market for gas service and appliances.

Public Service of N. J. Votes a Stock Issue

Newark, N. J.—The directors of the Public Service Corporation of New Jersey have authorized the issuance of 131,200 shares of no par value common stock, which is equivalent to 10 per cent of the common and the preferred stock, both 8 per cent and 7 per cent, now outstanding. Subscriptions will be open to present stockholders in the ratio of one share to each ten shares of preferred or common held as of June 5, at a price of $62.50 a share. Subscriptions will be payable not later than August 1. Arrangements have been made for underwriting any stock not subscribed to.

The board of directors of the Public Service Corporation also declared dividends at the rate of 8 per cent per annum on the 8 per cent cumulative preferred stock, or $2 per share; at the rate of 7 per cent per annum on the 7 per cent cumulative preferred stock, or $1.75 per share; and $1.25 per share on the no par value common stock for the quarter ending June 30, 1925, to stockholders of record June 5, 1925.

Vernon Baker Dies After Short Illness

Vernon Baker, chief engineer and vice-president of the Russell Engineering Co. of St. Louis, Mo., died on May 16, after a short illness. He contracted pneumonia while on a business trip to New England and died in Boston, Mass.

Mr. Baker graduated from Washington University in St. Louis and accepted the position of assistant engineer in the water department of the city. He then joined the staff of the Parker-Russell Mining & Manufacturing Co., and worked himself up to the position of chief engineer. In 1913 he left the Parker-Russell Co. and became chief engineer of the Russell Engineering Co., which position he held at the time of his death. A short time ago he was made vice-president of the company.

Mr. Baker was chairman of the Builders Section of the Carbonization Committee of the American Gas Association and was very active on this committee.

Gas Co. Entertains 500 Guests at Reception

Five hundred guests of North Augusta were guests of the Gas Light Co. of Augusta, Ga., at a reception at the North Augusta headquarters of the company, 367 Georgia avenue. The company gave the reception in connection with the nearing of the completion of the new gas main which has been extended across the Savannah River so as to accommodate North Augusta residents.

The reception was a brilliant affair, in which the public utility company came in close contact with the public it serves.

A delightful buffet supper was served the guests and an enjoyable program of entertainment, including a radio concert broadcast by the Ruud Manufacturing Co. from station KDKA, Pittsburgh. During the course of the concert the Ruud Co. broadcast official congratulations to North Augusta on their acquisition of gas service and to the local gas company for making this possible.

The gas company will conduct a series of cooking classes each day, except Saturdays and Sundays. The North Augusta headquarters of the company is used for the cooking school. Miss Cephalia Lewis, who has been in charge of the company's demonstration department for a number of years conducts the school. Every housewife and all the daughters of North Augusta have been invited by the company to take advantage of the unusual opportunity offered by the company's cooking school.

W. F. Eve, Jr., head of the company's commercial and advertising departments, addressed the guests at the reception. Mr. Eve said that the aim of the gas company is to give the people of North Augusta every service possible and that his company will lay the mains just as fast as North Augustans show any disposition to take the service.

It has been estimated by officials of the gas company that the North Augusta extension would cost $40,000.

U. S. Chamber Re-elects Gadsden as a Director

P. H. Gadsden of Philadelphia, nationally known as a public utility executive, was re-elected a director of the United States Chamber of Commerce at the annual meeting just concluded in Washington.

As a director of the United States Chamber, a director of the Pennsylvania State Chamber of Commerce and a director of the Philadelphia Chamber of Commerce, Mr. Gadsden enjoys an unusual distinction.

He is vice-president, the United Gas Improvement Co., Philadelphia; president, the Charleston Consolidated Railway & Lighting Co., Charleston, S. C., and chairman, the Pennsylvania Public Service Information Committee.

"Better Copy" Portfolio

The "better copy" committee of the Public Utilities Advertising Association has just issued a bound volume, size 12½x15 inches, containing nearly 200 representative Public Utility advertisements. This is the first comprehensive Public Utility advertising portfolio published within the industry. It is issued for the sole purpose of assisting the individual utility in the planning and execution of an adequate advertising program. The advertisements reproduced were selected from over 1,500 separate advertisements submitted for the consideration of the committee by about 150 companies. These advertisements cover every phase of the utilities. Before proceeding with the selections a questionnaire was mailed seeking expressions from the various utilities as to the kind of advertising matter they were most interested in. The replies indicated greatest interest in goodwill or public relations advertising, with customer-ownership and merchandising sharing second place. The advertisements have been selected and inserted accordingly.

The subscription price of the portfolio is $5, postpaid, and orders for copies may be secured by addressing Mr. C. W. Person, Treasurer Public Utilities Advertising Association, care American Gas Association, 342 Madison avenue, New York City.

Canadian Gas Men Plan for a Real Vacation and Business Convention

Boat trip from Toronto to Quebec City attracting many

The Canadian Gas Association's 18th Annual Convention, to be held in the old historic City of Quebec, Canada, promises to be one of the best meetings ever held by that energetic society of Canada's best gas men.

Reservations are coming in at a promising rate and embrace many from friends of the association on this side of the International line. The Canadians have always endeavored to give their delegates the time of their lives, and there is no question but the coming event will have a programme not a whit behind its preceding meetings.

The Papers Committee have a programme made up of excellent papers contributed by eminent gas men and engineers of note. Among the well-known contributors might be mentioned:

J. D. von Maur, Engineer of Distribution of the Consumers' Gas Co., of Toronto.

Hugh McNair, Manager Gas Utility, Winnipeg Electric Co., Winnipeg, Man.

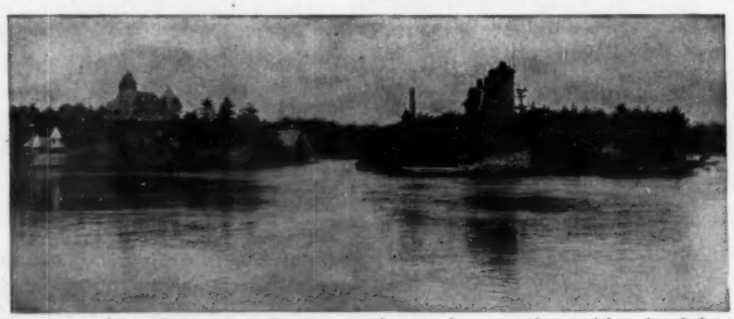
R. A. Wallace, Superintendent Gas Department, Quebec Railway, Light & Power Co., Quebec City, Que.

C. H. Scheman, General Manager, Horton Steel Works, Bridgeburg, Ont.

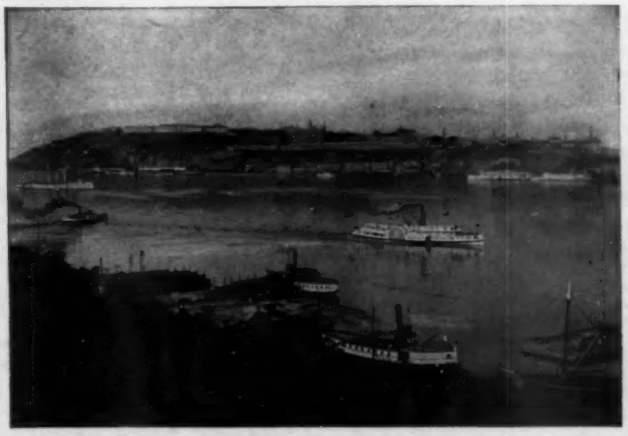
Miss Ada Swann, Home Service Director, American Gas Association, New York.

Harry D. Schall, Vice-President, Standard Gas Equipment Corp., New York, N. Y.

H. Osler, Supt. Station "B," La Salle Gas Plant, Montreal, Que.



The subjects covered will embrace Distribution, Coking Ovens, Welded Gas Holders, Back Run Operations, Home Service Work, etc



The Convention is to be a business - vacation meeting and many have already availed themselves of the excellent steamboat trip — Toronto to Quebec City, via Lake Ontario, Thousand Islands, Rapids of the St. Lawrence—the finest inland water trip in the world. This trip covers 550 miles through the most delightful scenery anyone would wish to see, which, coupled with the exciting descent of the most wonderful navigable rapids of the world, will make the Convention one never to be forgotten. Gas men and their wives and friends who were fortunate enough to attend former meetings of the Canadian Gas Association held at Montreal or Quebec City will remember the good times they had, while at the same moment were able to discuss their varied problems concerning the development of the gas industry.

The Convention Headquarters at Quebec will be the Chateau Frontenac, one of the fine Canadian Pacific Railway Hotels, and situated on the old citadel of Quebec.

Quebec is the capital city of the Province of Quebec, Canada. It is full of points of historical interest to the visitors. It is the principal military station in Canada, and, next to Gibraltar, the strongest fortified position in British territory. A walled fortification, with gates, surrounds the old city; the fortifications and best residence portion, or upper town, are on the high land, and the business pa and the older portion of the city are at the base of the cliff, on the St. Lawrence, around the point and along the bank of the St. Charles. The citadel is on the highest point, facing the St. Lawrence, 340 feet above the river, and a wall from the citadel runs along

the top of the promontory to a point near the roadway, between upper and lower town. Inside of this is the famous public promenade, known as Dufferin Terrace, and at the east end of this terrace is the splendid hotel, the "Chateau Frontenac," a noble adjunct even to so grand a spot. Here the meetings of the Gas Convention will be held, July 15 and 16, 1925.

In all its phases; in the approach by the river from the west; in the departure going east from the citadel, the terrace from the Chateau; looking down on the houses and ships and water beneath, and across the narrow, precipitous stairs and streets, and queer old crannies built against the cliff; in its history and people; its old-time battlements, walls and gates—there is nothing to surpass quaint old Quebec in the old world or new.

The Hotel Management has reserved accommodation for members and friends of the association, but advises delegates placing their reservations in at once. Quebec is always a famous summering place, always busy, and to insure rooms it is advisable to write as soon as possible, stating in the letter that it is the delegate's intention to take in the Canadian Gas Association Convention.

There are no single rooms available. All rooms are for two persons at least, and the charge will be based on $8.00 per room.

The other big attraction of the Convention is the boat trip being arranged from Toronto and intermediate ports, via Lake Ontario, the Thousand Islands and Rapids of the St. Lawrence, and on to Quebec City. Delegates who took in the previous meetings at Montreal, or Quebec, will remember the boat ride enjoyed by most of the members who attended the meetings. The coming trip will be none the less enjoyable, and already many have signified their intentions of going to the Convention from some of the ports along the way.

The Boat Committee has made special arrangements with the Canada Steamships Lines, Limited, for low fares, in which are included meals and berths, as follows:

Toronto to Quebec and return to Toronto, $48, plus tax 50c.

Rochester, N. Y., to Quebec and return to Rochester, $46.

Kingston, Ont., to Quebec and return to Kingston, $39.20, plus tax 25c.

Clayton, N. Y., to Quebec and return to Clayton, $39.20.

Prescott to Quebec and return to Prescott, $34.30 plus tax 20c.

Montreal to Quebec and return to Montreal, $17.65 plus tax 15c.

These fares are special to gas men and their friends only, and all reservations are to be made through the Secretary of the Association, G. W. Allen, 7 Astley Ave., Toronto, Ont.

Single fares from the various points named can be arranged for, and the rates therefore can be obtained from the secretary. Wherever possible, delegates are requested to take the return trips.

Make all reservations immediately if accommodation is to be secured. The Canadian Gas Association extends a hearty invitation to all its American friends to attend the coming meeting. It can be made a business as well as a vacaion trip, and the Committees in charge of arrangements can promise a real instructive as well as a joyful get-together time for all.

Titles of some of the papers to be read are as follows:

"Electric Welding and Design of Gas Holders," by C. H. Scheman, general manager, Horton Steel Works, Ltd., Toronto, Ont.

"Coke Ovens in Medium Sized Gas Works," by Hugh McNair, manager gas utility, Winnipeg Electric Railway Co., Winnipeg, Man.

"Medium High Pressure Gas Distribution," by J. D. von Maur, engineer of gas distribution, Consumers Gas Co., Toronto.

"Value of Hotel and Restaurant Gas Equipment Business to the Gas Company," by Harry D. Schall, vice-president in charge of sales, Standard Gas Equipment Corp., Baltimore, Md.

"Back Run Results at Quebec," by R. A. Wallace, superintendent gas department, Quebec Railway, Light & Power Co., Quebec, Can.

"Mankind's Greatest Discovtry," by Major Alexander Forward, secretary-manager, American Gas Association, New York.

"Home Service Work," by Miss Ada B. Swann, American Gas Association, New York.

M. M. May Made General Manager of Augusta Gas Co.

R. J. Hole, vice-president of the Southern Gas & Power Co., of Greensboro, N. C., who is also in charge of operations, announced recently that M. M. May had been appointed general manager of the Augusta Gas Co. to succeed F. L. Marshall, resigned.

Announcement was made at the same time that W. F. Eve, Jr., had been appointed manager of new business and placed in charge of the commercial and advertising department.

R. N. Neihouse is appointed general superintendent.

Mr. May, who is well known and highly regarded in business circles, has been connected with the local gas company over a period of 25 years, having risen to his present position from a job of meter inspector. His many friends are congratulating him on his new appointment. He is a native of Augusta.

Mr. Eve, who is also a native Augustan, has been with the gas company for eight years, having been employed for five years as superintendent of distribution. He has been active in business and civic affairs in Augusta for many years.

Mr. Neihouse, who came to the local company about three years ago, has been a valuable addition to the company's official group, and he has adopted Augusta permanently as his home.

Contracts Awarded

A contract for the construction of Lock and Dam No. 53 on the Ohio River, near Mound City, Ill., the last major project in the improvement of the river for navigation, has been awarded to the United Gas Improvement Company of Philadelphia, for approximately $2,000,000.